

A New Way of Thinking

Blackmer® X Series sliding vane pumps help Slawson Exploration and Pelican Gathering Systems overcome handling characteristics of Bakken-produced crude oil

Part 2 of 2

See Part 1 on
modernpumpingtoday.com

By Doug Cumpston

In the search for a solution to overcome handling characteristics of Bakken-produced crude oil, Tom Roberts, field supervisor for Pelican Gathering Systems, LLC, New Town, North Dakota, reached out to Mark Williams, corporate account manager for Farmington, New Mexico-based Horizon Power Systems, a designer, fabricator and servicer of oilfield production equipment and systems.

"Tom asked me what I thought was the best pump to handle an oil that had a lot of entrained gas and also had a very low viscosity and after doing some research we decided that using the Blackmer pumps would be a very good offer, so we developed a package that Slawson wanted," says Williams.

THE PERFECT PUMPS FOR THE PROCESS

Specifically, Williams recommended X Series Sliding Vane Pumps from Blackmer®, Grand Rapids, Michigan, which is a product brand of PSG®,

a Dover company that is based in Oakbrook Terrace, Illinois. The design and operation of X Series pumps makes them ideal for handling high vapor pressure petroleum

products. Their operational features include sliding-vane design that self-adjusts for wear to maintain flow rates; self-priming and dry-run capabilities; adjustable relief valve

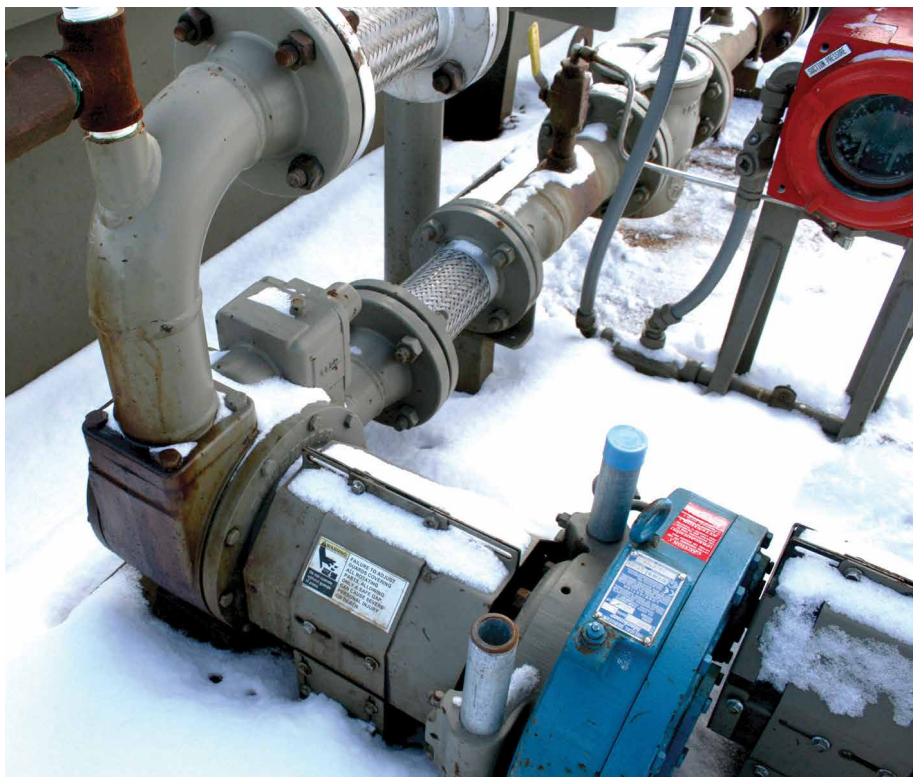


As part of his responsibilities, Tom Roberts, field supervisor for Pelican Gathering Systems, monitors the Pelican pipeline system, which utilizes pumps to introduce the oil and natural gas into the pipeline at the wellhead, transfer it through a series of switching locations along the pipeline and then deliver it to the storage tanks.

that protects against changing and excessive pressures; and easy vane replacement and maintenance that does not require the pump to be removed from the piping system.

“One of the other advantages of Blackmer pumps, in this case, is that they have had the experience in pumping high-pressure liquids like propane and butane,” says Williams. “The vane-type pump is very kind to the fluid and it doesn’t break out the gases from the liquids as badly as a gear pump or centrifugal pump would.”

Slawson is using three sizes of X Series pumps—1.5-, 2- and 3-inch or, in Slawson’s vernacular, 1, 2, and 5 barrels-per-minute (bpm) models—with the pump, motor and gear case installed on a skid that has the suction and discharge piping terminated at the edge. The skid is also outfitted with all necessary valves, instrumentation and caps. The skids are then installed at the tank batteries.



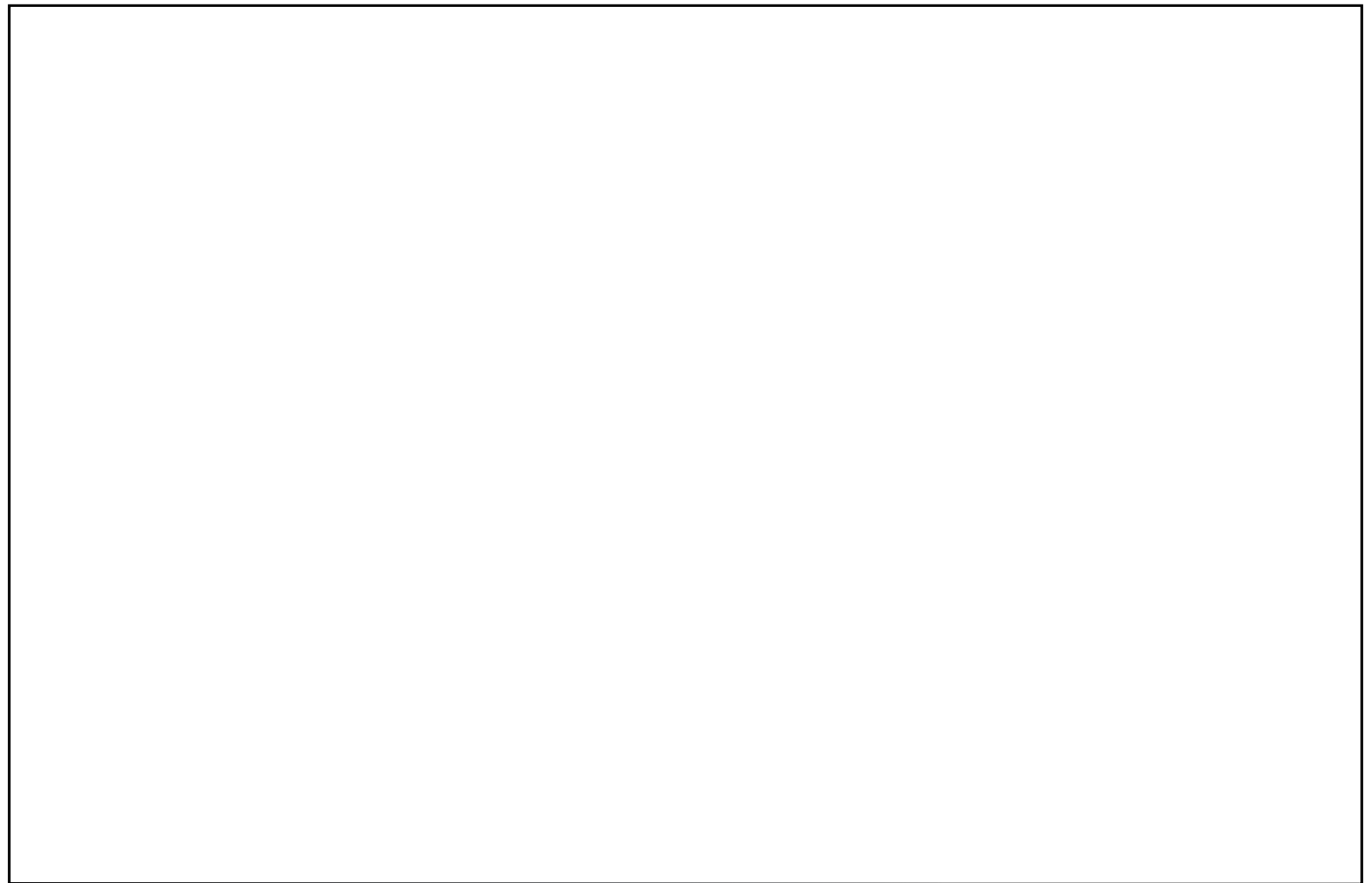
Blackmer® X Series pumps are able to handle the harsh operating conditions found in the Bakken, where temperatures can reach -50 degrees Fahrenheit (-46 degrees Celsius).

Currently, Slawson is utilizing 60 to 70 skid-mounted units that are outfitted with Blackmer X Series pumps.

“Not only do you not really have any vapor issues, but the ease of maintenance and repair is pretty remarkable, in my opinion,” says Roberts. “We took two or three guys and made them pump-repair guys on these Blackmer pumps and they can go service these pumps everyday. We’re running them really hard so they need routine maintenance for bearings and things like that, and in less than two years those guys were able to take a rebuild kit and call two hours later and say, ‘You’re ready to go.’ That’s a big advantage compared to having another brand of pump that made it necessary that I call somebody from another distributor and wait for the technician to drive



After years of working to find the right pumping solution to handle Bakken crude, Slawson Exploration and Pelican Gathering Systems found the best solution in Blackmer® X Series pumps.



two hours from Bismarck to come fix the pumps. The downtime on the Blackmer pumps is pretty small; we can fix something that is completely down and be back up and running in less than two hours."

HANDLING HARSH OPERATING CONDITIONS

The X Series pumps are also able to handle the harsh operating conditions found in the Bakken, where temperatures can reach -50 degrees Fahrenheit (-46 degrees Celsius). Their methods of construction and operation, and use of mechanical seals, also eliminate product leaks that could potentially foul the environment, which is a constant concern for oilfield operators.

"We take a lot of care that the pumps are properly vented on their skids so that they don't make a mess and will continue to lower the environmental impact," says Williams. "When we built our skids with the Blackmer pumps we took a lot of care to make sure that any environmental impact was as controllable as possible."

"The skids, as far as they are designed, can't be improved much," adds Roberts. "Whoever designed the skids was thinking about day-to-day use, environmental problems, things like that."

HAVING A POSITIVE IMPACT

The positive impact of the Blackmer pumps has been so pronounced that Roberts is seriously contemplating taking the thirty or so skids that still feature gear pumps and switching them over to Blackmer X Series models.

"That's one thing I can compare performance-wise, how the pumps perform in relation to something else," says Roberts. "As we look at what we can do better, that would be one of the things, picking off those gear pumps. If we have a gear pump on its last legs, sure they can be rebuilt, but more frequently you just replace the pump. With what we've seen from the Blackmers, it would

make us look pretty hard at replacing the gear pumps with Blackmers."

CONCLUSION

The historic leap in United States oil and natural gas production has not only necessitated a new way of viewing the industry, but a new way of attacking its challenges. The rare characteristics of Bakken shale crude oil has created the need to identify pumping technologies that can work in unison with its various levels of entrained gases and low viscosity. After years of working to find the right solution, Slawson Exploration and Pelican Gathering Systems have found the best pumping technology for their pipeline applications: X Series Sliding Vane Pumps from Blackmer.

"Once you get the Blackmer pumps started, you don't have to worry about any issues," marvels Roberts. "They pump it down to

whatever level you have in mind, which makes our job easier. We don't have to do much with the Blackmers, just set them, connect them, power them up and they're ready to go." ♦

Doug Cumpston is director, sales and business development North America energy PSC®. He can be reached at 303.766.2755 or doug.cumpston@psgdover.com. Blackmer® is a leading brand of rotary vane and centrifugal pump and reciprocating compressor technologies from PSC®, a Dover company. Headquartered in Oakbrook Terrace, IL, USA, PSG is comprised of several leading brands, including Abaque®, Almatec®, Blackmer®, Ebsray®, EnviroGear®, Criswold™, Mouvex®, Neptune™, Quattroflow™, RedScrew™ and Wilden®. For more information, visit www.blackmer.com or www.psgdover.com.